

WHAT IS CLAIMED IS:

1. A mechanism for confining a flat flexible cable of an image scanner in position, said flat flexible cable being electrically connected between a circuit board and a carriage and bending differentially with the movement of said carriage relative to said circuit board under a scanning platform, said mechanism comprising a confining member disposed between a first portion of said flat flexible cable and said scanning platform for isolating said flat flexible cable from said scanning platform,

wherein said confining member changes states and bends differentially with the movement of said carriage relative to said circuit board under said scanning platform, and has a bending resistance greater than that of said flat flexible cable so as to keep itself at least a certain clearance from said scanning platform while confining said first portion of said flat flexible cable thereunder.

2. The mechanism according to claim 1 wherein said confining member has one end secured to said carriage and disposed above said first portion of said flat flexible cable, and the other end secured to said circuit board.

3. The mechanism according to claim 2 wherein the length of said confining member is no greater than that of said flat flexible cable.

4. The mechanism according to claim 1 wherein said confining member has one end secured to said carriage and the other end secured to said circuit board and disposed above said first portion of said flat flexible cable.

5. The mechanism according to claim 1 wherein said confining member is unidirectionally bendable.

6. The mechanism according to claim 1 wherein said confining member comprises:

a flexible strip bends differentially with the movement of said carriage; and

a plurality of rigid ribs fixed on said flexible strip in close to each another for enhancing the bending resistance of said flexible strip.

7. The mechanism according to claim 6 wherein said flexible strip is made of a plastic material, and said rigid ribs are made of plastic or metals and arranged one by one in parallel along the moving direction of said carriage.

8. The mechanism according to claim 1 wherein said confining member comprises a plurality of rigid parts connected in series along the moving direction of said carriage, and each of said rigid parts is pivotally coupled to a preceding rigid part with the front-bottom corner and a following rigid part with the rear-bottom corner.

9. A mechanism for confining a flat flexible cable of an image scanner in position, said flat flexible cable being electrically connected between said circuit board and said carriage and bending differentially with the movement of said carriage relative to said circuit board under a scanning platform, said mechanism comprising a confining member disposed between said flat flexible cable and said scanning platform for isolating said flat flexible cable from said scanning platform,

wherein said confining member changes states with the movement of said carriage and continually tensed to keep itself at least a certain clearance from said scanning platform while confining said flat flexible cable thereunder.

10. The mechanism according to claim 9 wherein said confining member is a thread, rope or strip.

11. The mechanism according to claim 9 further comprising a pulley, said confining member having a first end connected to said carriage and a second end connected to said pulley, and being continually tensed by being rolled up by and released from said pulley with the movement of said carriage.

12. The mechanism according to claim 11 wherein said pulley is further wound thereon a transmission belt for transmitting said carriage to move.

13. The mechanism according to claim 12 further comprising a reel for winding thereon said confining member before said confining member is connected to said pulley, said reel being disposed at a specific position to keep a first section of said confining member above said flat flexible cable to isolate said flat flexible cable from said scanning platform and a second section of said confining member connected to said pulley.

14. The mechanism according to claim 13 wherein said first section extends along the moving direction of said carriage, and said second section is substantially perpendicular to said first section.

15. The mechanism according to claim 9 wherein said confining member is made cyclic and has two ends thereof respectively secured to forward and rearward sides of said carriage and enclosing said flat flexible cable therewith.

16. The mechanism according to claim 15 further comprising two rollers disposed adjacent to and distant from said circuit board, respectively, along the moving direction of said carriage for tensing said confining member and facilitating the rotation of said confining member with the movement of said carriage.